ANHUI GUZHEN BIOMASS GENERATION PROJECT

Document Prepared By LGAI Technological Center, S.A. (Applus+ Certification)

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Work Carried Out By	Lead Auditor / Technical Expert: Denny Xue Technical Reviewer: Simon Shen

Summary:

LGAI Technological Center, S.A. (hereafter referred to as "Applus+ Certification") has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity "Anhui Guzhen Biomass Generation Project" (VCS Ref. No. 1121, hereafter referred to as "the project activity") reported in the monitoring report /1/ during monitoring period 01/10/2015 to 29/02/2020.

The project activity has been validated by Perry Johnson Registrars Carbon Emissions Services based on the CDM PDD /3/ version 2.0 dated 21/09/2012 and reported in the validation report /4/ No. C-1-C-01-L-0236, version 01, completed on 21/10/2012. The project activity was registered as a CDM project activity on 07/11/2012 which is available at https://cdm.unfccc.int/Projects/DB/PJR%20CDM1351854815.15/view. A gap validation was performed by re-Consult through the first VCS verification which is available at https://www.vcsprojectdatabase.org/#/project_details/1121.

The main purpose of this project activity is to generate clean form of electricity through renewable biomass resource. The installed capacity of the project activity is 30 MW, consisting of 1 set of steam turbine and generator with unit capacity of 30 MW. The total quantity of biomass residues used by the project activity will be 310,000 tons (wet basis). The average annual power delivered to the grid by the project is expected to be 186,900 MWh. The project activity substituted electricity generation of East China Power Grid (ECPG) dominated by fossil fuel power plants. It's estimated that the project activity could achieve GHG emission reductions of 132,072 tCO_2e annually. The project activity is located at Economic Development Zone, 8 km to the downtown of Guzhen County, Anhui Province, People's Republic of China. The project has been developed by National Guzhen Bio Energy Co., Ltd.

During the 10 years of first crediting period, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 132,072 tCO_2e per year, thereon displacing 186,900 MWh amount of electricity from the generation-mix of power plants connected to the Chinese power grid annually, which is mainly dominated by thermal/fossil fuel-based power plant.

The purpose and scope of this verification is to ensure that reported emission reductions are complete and accurate in accordance with applicable VCS standards and relevant UNFCCC requirements in order to be certified.

A desk review and a site visit have been conducted to verify the data submitted in the monitoring report /1/. Applus+ Certification confirms the following has been reviewed:

- Monitoring plan included in the registered PD /3/ version 2.1 dated 17/07/2013;
- Verification Report No. 182 /4/, version 02.2, completed on 23/07/2013;
- Validation report No. C-1-C-01-L-0236 /4/, version 01, completed on 21/10/2012;
- Approved methodology, ACM0018 /7/, version 2.0.0, dated 02/03/2012;
- VCS standards and guidance version 4.0, as well as relevant UNFCCC requirements;
- All information and references relevant to the project activity's resulting in emission reductions.

During this verification, no finding was identified related to the monitoring, implementation or operations of the project activity in relation to relevant VCS standards, guidance and UNFCCC requirements and relevant host party criteria and the applied baseline and monitoring methodology etc.

Applus+ Certification confirms that the project is implemented in accordance with the registered PD /3/. The monitoring plan complies with the applied methodology ACM0018 /7/ version 2.0.0 and the monitoring has been carried out in accordance with the monitoring plan in the registered PD /3/. The monitoring system is in place and the emission reductions are calculated without material misstatements. The level of assurance of the verification is reasonable. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 619,890 tCO_2e emission reductions during period 01/10/2015 to 29/02/2020.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity "Anhui Guzhen Biomass Generation Project" (VCS Ref. No. 1121) reported in the Monitoring Report /1/ during monitoring period 01/10/2015 to 29/02/2020.

LGAI Technological Center, S.A. as the verification body of the project activity has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

The objective of verification is to have an independent review and ex post determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registration of VCS project. Certification is the written assurance by the DOE that, during a specific time period, a proposed VCS project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified.

The objective of this verification/certification is to verify and certify emission reductions, reported for the "Anhui Guzhen Biomass Generation Project" in China for the period 01/10/2015 to 29/02/2020.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the registered PD, the Project's baseline study and Monitoring Report (MR) and other relevant documents. The information in these documents is reviewed against VCS Version 4.0 requirements, UNFCCC rules and associated interpretations.

The verification is not meant to provide any consulting towards the client. However, stated requests for forward actions and/or corrective actions may provide input for improvement of the Project monitoring towards reductions in the GHG emissions.

1.3 Level of Assurance

The verification report is based on the VCS-PD, the VCS Monitoring Report (MR), supporting evidences made available to the verifier and information collected through performing interviews and during the on-site assessment.

The verification conclusion is assured a reasonable level of assurance.

1.4 Summary Description of the Project

Project title	Anhui Guzhen Biomass Generation Project
VCS and CDM reference number	VCS Ref. No: 1121 CDM Ref. No: 8008
Project Participants	National Guzhen Bio Energy Co., Ltd (Project Owner, host country, P. R. China)
Location of the project	Economic Development Zone, 8 km to the downtown of Guzhen County, Anhui Province, People's Republic of China Geographic coordinates: East longitude: 117°20'13" North latitude: 33°18'08
Project start date	Construction start date: 28/03/2010 Operation start date: 03/01/2011
Version of registered CDM PDD or VCS PD	Version 2.1, dated 17/07/2013 (VCS PD and basis for verification)
Monitoring period	01/10/2015 to 29/02/2020
First monitoring report	Version 1.0, dated 19/03/2020
Final monitoring report	Version 2.0, dated 28/03/2020
Applied Methodology/Version	ACM0018, version 2.0.0, dated 02/03/2012
Scope/Technical Area	1/1.1

The main purpose of this project activity is to generate clean form of electricity through renewable biomass resource. The installed capacity of the project activity is 30 MW, consisting of 1 set of steam turbine and generator with unit capacity of 30 MW. The total quantity of biomass residues used by the project activity will be 310,000 tons. The average annual power delivered to the grid by the project is expected to be 186,900 MWh. The project activity substituted electricity generation of East China Power Grid (ECPG) dominated by fossil fuel power plants. It's estimated that the project activity could achieve GHG emission reductions of 132,072 tCO_2e annually. The project activity is located at Economic Development Zone, 8 km to the downtown of Guzhen County, Anhui Province, People's Republic of China. The project has been developed by National Guzhen Bio Energy Co., Ltd

During the 10 years of first crediting period, the project will replace anthropogenic emissions of greenhouse gases (GHG's) estimated to be approximately 132,072 tCO_2e per year, thereon displacing 186,900 MWh amount of electricity from the generation-mix of power plants connected to the Chinese power grid annually, which is mainly dominated by thermal/fossil fuel-based power plant.

The project activity was registered as a VCS project which is available at https://www.vcsprojectdatabase.org/#/project_details/1121.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using Applus+ Certification's procedures in line with the requirements specified in the VCS Standard version 4.0, CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant UNFCCC requirements and applying standard auditing techniques.

Applus+ Certification completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report /1/ for the period in question. This involved a site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

The information of the assessment team is included in below:

Assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in accordance with the appointment rules in Applus+ Certification. The composition of assessment team has to be approved by the Applus+ Certification ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)/ Auditor Trainee (AiT)

- Technical Reviewer (TR)

- Technical Experts (TE)

Name	Qualification	Coverage of scope	Coverage of Technical Area	Host country experience
Denny Xue	*LA/TE*	*Y (1.1)*	*Y*	*Y*
Simon Shen	*TR*	*Y (1.1)*	*Y*	*Y*

Denny Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is a lead auditor appointed by Applus+ Certification for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ Certification, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ Certification for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ Certification, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years.

2.2 Document Review

The VCS monitoring report /1/ version 1.0 dated 19/03/2020, version 2.0 dated 28/03/2020 and the emission reduction calculations spreadsheet /2/, were assessed as part of the verification. In addition, the registered PD /3/ version 2.1 dated 17/07/2013 in particular the baseline estimations and the monitoring plan, and the VCS verification report /04/, version 02.2 dated 23/07/2013 and the CDM validation report /04/ version 01 dated 21/10/2012, as well as relevant documents, were reviewed. A detailed documents reviewed are listed in Annex 1 of the report.

2.3 Interviews

The key personnel interviewed are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Mr. Cao Ping	Manager	National Guzhen Bio Energy Co., Ltd	Operation of the project activity; Implementation of the monitor plan of the project activity; Data collection and data achievement; Calibration of meters and equipment maintenance. Data collection and ER calculation.
Mr. Xie Yi	Operator	National Guzhen Bio Energy Co., Ltd	

2.4 Site Inspections

The assessment team performed the on-site verification (Economic Development Zone, 8 km to the downtown of Guzhen County, Anhui Province, People's Republic of China) on 26-27/03/2020. The interviewed personnel and objective are listed in above table.

2.5 Resolution of Findings

As an outcome of the verification process, the team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

a) Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;

b) Modifications to the implementation, operation and monitoring of the project activity has not been sufficiently documented by the project participants;

c) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

d) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance.

There is no CARs and CLs raised for this monitoring period for the project.

2.5.1 Forward Action Requests

None FAR was raised during the verification process. Also there are no remaining from former verification and validation.

2.6 Eligibility for Validation Activities

Not applicable as LGAI Technological Center, S.A. holds the accreditation for the validation and verification for projects under scope 1.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Through reviewing the registered PDD /3/ and validation report /4/ at CDM website https://cdm.unfccc.int/Projects/DB/PJR%20CDM1351854815.15/view. It is confirmed that the project has been registered as a CDM project with reference No. 8008. By checking VCS website http://www.vcsprojectdatabase.org/#/project_details/1121, it was validated that the project has been also registered as a VCS project with reference No. 1121. The project does not participate in the other emissions trading program by checking public information on Internet and interviewing with project owner.

During the period from 03/01/2011 to 02/01/2021 as the crediting period, the project would claim for only for CERs or VCUs confirmed by checking statement issued by project owner. Also, there are CERs issuance during the period from 01/01/2013 to 30/09/2015.

Therefore, Applus+ Certification consider the project is eligible to participate under the VCS Program as there is no double counting for the emission reduction during any period.

3.2 Methodology Deviations

Not applicable as no methodology deviation.

3.3 Project Description Deviations

The project was registered under CDM scheme on 07/11/2012 with reference number of 8008. According to CDM standard, the crediting period is 01/12/2013-31/12/2019 (Changed from 16/11/2012-15/11/2019), which could be renewed twice.

Then the project was registered under VCS scheme in 2013. In the registered PD, the project commission date is 03/01/2011 and start date of crediting period is chosen as 03/01/2011 as well. However, in the registered PD, the crediting period was set as from 03/01/2011 to 06/11/2012. While according to VCS standard Version 3, the project crediting period is allowable for 10 years and could be renewed twice. Therefore, the first crediting period of project has been determined as 03/01/2011 to 02/01/2021.

The deviation has no impact for the applicability of the methodology, additionality or the appropriateness of the baseline scenario and meet all appropriate rules and requirements of VCS standard.

Also, another deviation has been applied during this monitoring period as Net calorific value of biomass residues of category n in year y ($NCV_{n,y}$) would not been directly monitored as in the registered PD, the project owner has given up the baseline emission due to uncontrolled burning or decay of biomass residues ($BE_{BR,y}$) as well as project emissions from the combustion of biomass residues ($PE_{BR,y}$) which is allowed by ACM0018 and which is where Net calorific value of biomass residues of category n in year y ($NCV_{n,y}$) are used for ER calculation. Therefore, Net calorific value of biomass residues of category n in year y ($NCV_{n,y}$) is not related to the calculation of emission reduction in this monitoring period and would be monitored by checking public literature. The assessment team found this is applicable as this deviation has no impact on the result of ER.

3.4 Grouped Project

Not applicable as not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

By means of on-site visit, the assessment team confirms that all physical features of the project activity proposed in the registered PD /3/ are in place and the PP has operated the project as per registered PD /3/. The installed capacity of the project activity is 30 MW, consisting of 1 set of steam turbine and generator with unit capacity of 30 MW. The electricity generated is transmitted to the Anhui Power Grid via newly built substation, which was then exported to the ECPG. The average annual power delivered to the grid by the project is expected to be 186,900 MWh. The construction of the project started on 28/03/2010 and the commissioning time was 03/01/2011 verified by site visit interview and checking registered PD. There are no changes on the key equipment and technology since the validation of the project. No special event which would affect the monitoring of the project has been observed during the monitoring period. The implementation of project is in line with the description of registered PD.

The project has been registered under CDM. The emission reductions resulted from the project during this monitoring period would apply for VCUs. The project only applies VCUs (no other form of environmental credit) or CDM and no rejection from VCS and CDM occurs. The project would contribute to sustainable development in Job creation, Reduction in GHG emissions, Reduction of fossil fuel use and Increase of power supply aspects confirmed during site visit.

The technical parameters have been verified with the nameplates /9 / as below:

Parameters	Value
Boiler	
Model	YG-130/9.2-T1
Rated steam capacity	130 t/h
Rated steam pressure	9.2 MPa
Rated steam temperature	540 ℃
Manufacturer	Jinan Boiler Group Co., Ltd.
Turbine	
Model	N30-8.83
Rated power	30 MW
Rated speed	3,000 r/min
Inlet pressure:	8.83 MPa (a)
Manufacturer	Qingdao Jieneng Steam Turbine Group Co., Ltd.
Generator	
Model	QF-30-2
Rated power	30 MW
Rated voltage	10,500 V
Rated frequency	50 Hz
Power factor (lagging)	0.8
Manufacturer	Shandong Jinan Generator Factory

By comparing the actual ER claimed in this monitoring period with the estimate in the registered PD, the actual emission reductions (619,890 tCO_2e) are 6.2% higher than what is stated in the registered PD (i.e. 583,650 tCO_2e) which could be considered in the reasonable range and will not lead to the overestimation of VERs.

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period.

All required equipments and procedures are available and implemented in an appropriate manner.

All necessary monitoring instruments are installed. All required instruments including standby and operating procedures for the same have been implemented in an appropriate manner.

The project is completely operational and the same has been confirmed on-site. Neither mistakes nor malfunction on main meters have been observed during this monitoring period.

4.2 Safeguards

4.2.1 No Net Harm

The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation.

By checking Environmental Impact Assessment summary for the project activity, the assessment team confirm all environmental impacts has been analysed and no net harm was detected.

Also, no potential environment or social economic matter was found during the site visit. The project is renewable energy project and thus no net harm observed in air or water quality on-site.

4.2.2 Local Stakeholder Consultation

The project owner carried out the stakeholders meeting on 14/12/2009 in Shouxian County around the project site. Questionnaire was implemented by filling the stakeholder comments investigation form. The comments, from the government, environmental protection bureau, local farmers, teachers and other relevant stakeholders, were collected. 50 copies questionnaires were distributed and 50 of them were collected. The recovery rate is 100%. Investigator introduced the project information to the interviewee firstly including the environmental impacts during the construction and operation, environmental protection measures that will be taken. Then, the stakeholders' comments were investigated by questionnaires.

The stakeholder meeting and the survey showed that the project activity receives strong support from the local community. They all believe the project activity will promote local economic development and agree with the project development and construction.

Communications with Local stakeholders was being carried out at periodic intervals. There are no negative comments received for the project.

All such conclusion has been verified through site visit and check registered PD.

4.3 AFOLU-Specific Safeguards

Not applicable as non-AFOLU project.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PD /3/. All parameters were monitored and determined as per the monitoring plan which is listed in below table:

Data / Parameter:	$EG_{PJ,gross,y}$
Data unit:	MWh
Description:	Gross quantity of electricity generated in all power plants which are located at the project site and included in the project boundary in year y
Purpose of the data:	Calculation of baseline emissions
Parameter value:	992,771.640
Source of data used:	Gross quantity of electricity generated in all power plants which are located at the project site and included in the project boundary in year y ($EG_{PJ,gross,y}$) are all sourced from Meter Reading Records (MRRs) /10/ issued by the project owner, Electricity Transaction Notes (ETNs) /11/ issued by power grid company covering monitoring period.
Information flow:	1 electricity meter (M1) installed at project site was measured continuously, recorded monthly and archived electronically. At 24:00 hr of the last day of each month, the staff from project owner will record the electricity meter's readings and form Meter Reading Records (MRRs). The staff from power grid company will record the net electricity generated by the project through other electricity meter(s) and then transcribes the data into Electricity Transaction Notes (ETNs) then after the confirmation of the project owner for the ETNs, the project owner will issue the invoice. The data for MRRs and ETNs have been sent to the CDM consulting company for reporting of GHG emission reduction. The data in the MRRs for M1 and M2 (please refer to below report) would be calculated for net electricity generated by the project then compare with the data in the ETNs, the conservative one would be used for ER calculation.

<table>
<tr><td>Monitoring method, frequency and equipments:</td><td>The parameter was measured continuously and recorded monthly by 1 electricity meter installed at project site during the monitoring period verified by site visit.
See below for the information of 1 electricity meter verified by site visit and checking calibration certificates /12/:
<table>
<tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr>
<tr><td>M1</td><td>DTSD866</td><td>2010040079</td><td>0.5s</td></tr>
</table>
The type, serial number and accuracy have been confirmed by site visit.</td></tr>
<tr><td>Calibration:</td><td>The calibration information is shown as below /12/:
<table>
<tr><th>Meter</th><th>Calibration date</th><th>Valid until</th></tr>
<tr><td rowspan="6">M1</td><td>01/11/2014</td><td>31/10/2015</td></tr>
<tr><td>26/10/2015</td><td>25/10/2016</td></tr>
<tr><td>21/10/2016</td><td>20/10/2017</td></tr>
<tr><td>13/10/2017</td><td>12/10/2018</td></tr>
<tr><td>08/10/2018</td><td>07/10/2019</td></tr>
<tr><td>30/09/2019</td><td>29/09/2020</td></tr>
</table>
The calibration was conducted by accredited third parties which is Anhui Electric Science Research Institute Co., Ltd was accredited by Quality and Technology Supervision Bureau of Anhui province /13/.</td></tr>
<tr><td>QA/QC procedure:</td><td>Crosschecked has also been made by calculating the energy balance based on biomass and fossil fuel consumption as below:
<table>
<tr><th>Year</th><th>Plant Efficiency</th></tr>
<tr><td>2015</td><td>21.08%</td></tr>
<tr><td>2016</td><td>21.23%</td></tr>
<tr><td>2017</td><td>21.39%</td></tr>
<tr><td>2018</td><td>21.27%</td></tr>
<tr><td>2019</td><td>21.07%</td></tr>
<tr><td>2020</td><td>20.56%</td></tr>
</table>
By checking the data listed above, it is confirmed that the efficiency of the project is within normal range with normal variation.
Data record will be archived for a period of 2 years after the crediting period to which the records pertain.</td></tr>
<tr><td>Means of verification:</td><td>Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs;</td></tr>
</table>

	Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.

Data / Parameter:	$EG_{PJ,aux,y}$
Data unit:	MWh
Description:	Total auxiliary electricity consumption required for the operation of the power plants at the project site
Purpose of the data:	Calculation of baseline emissions
Parameter value:	109,253.040
Source of data used:	Total auxiliary electricity consumption required for the operation of the power plants at the project site ($EG_{PJ,aux,y}$) are all sourced from Meter Reading Records (MRRs) /10/ issued by the project owner, Electricity Transaction Notes (ETNs) /11/ issued by power grid company covering monitoring period.
Information flow:	1 electricity meter (M2) installed at project site was measured continuously, recorded monthly and archived electronically. At 24:00 hr of the last day of each month, the staff from project owner will record the electricity meter's readings and form Meter Reading Records (MRRs). The staff from power grid company will record the net electricity generated by the project through other electricity meter(s) and then transcribes the data into Electricity Transaction Notes (ETNs) then after the confirmation of the project owner for the ETNs, the project owner will issue the invoice. The data for MRRs and ETNs have been sent to the CDM consulting company for reporting of GHG emission reduction. The data in the MRRs for M1 and M2 (please refer to below report) would be calculated for net electricity generated by the project then compare with the data in the ETNs, the conservative one would be used for ER calculation.
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 1 electricity meter installed at project site during the monitoring period verified by site visit.

<table>
<tr><td></td><td>See below for the information of 1 electricity meter verified by site visit and checking calibration certificates /12/:
<table>
<tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr>
<tr><td>M2</td><td>AINRTAL</td><td>02083299</td><td>0.2s</td></tr>
</table>
The type, serial number and accuracy have been confirmed by site visit.</td></tr>
<tr><td>Calibration:</td><td>The calibration information is shown as below /12/:
<table>
<tr><th>Meter</th><th>Calibration date</th><th>Valid until</th></tr>
<tr><td rowspan="6">M2</td><td>01/11/2014</td><td>31/10/2015</td></tr>
<tr><td>26/10/2015</td><td>25/10/2016</td></tr>
<tr><td>21/10/2016</td><td>20/10/2017</td></tr>
<tr><td>13/10/2017</td><td>12/10/2018</td></tr>
<tr><td>08/10/2018</td><td>07/10/2019</td></tr>
<tr><td>30/09/2019</td><td>29/09/2020</td></tr>
</table>
The calibration was conducted by accredited third parties which is Anhui Electric Science Research Institute Co., Ltd was accredited by Quality and Technology Supervision Bureau of Anhui province /13/.</td></tr>
<tr><td>QA/QC procedure:</td><td>Crosschecked has also been made by calculating the energy balance based on biomass and fossil fuel consumption as below:
<table>
<tr><th>Year</th><th>Plant Efficiency</th></tr>
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<tr><td>2020</td><td>20.56%</td></tr>
</table>
By checking the data listed above, it is confirmed that the efficiency of the project is within normal range with normal variation.
Data record will be archived for a period of 2 years after the crediting period to which the records pertain.</td></tr>
<tr><td>Means of verification:</td><td>Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs;
Information flow was verified by checking MRRs and ETNs, and all information are consistent;</td></tr>
</table>

	Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.

Data / Parameter:	Biomass residues categories and quantities used in the project activity
Data unit:	- Type; - Source; - Fate in the absence of the project activity; - Use in the project scenario; - Quantity (tonnes on dry-basis)
Description:	The quantities of which biomass residues categories are used in the project activity should be updated every year of the crediting period as part of the monitoring plan so as to reflect the actual use of biomass residues in the project scenario. These updated values should be used for emissions reductions calculations. Along the crediting period, new categories of biomass residues (i.e. new types, new sources, with different fate) can be used in the project activity. In this case, a new line should be added to the table. If those new categories are of the type B1, B2, or B3, the baseline scenario for those types of biomass residues should be assessed using the procedures outlined in the guidance provided in the procedure for the selection of the baseline scenario and demonstration of additionality.
Purpose of the data:	Calculation of baseline emissions
Parameter value:	See nested table below

No.	Biomass residue type	Biomass residues source	Biomass residues fate in the absence of the project activity	Biomass residues use in project scenario	Biomass residues quantity (10^4 tonnes on dry basis)
1	Rice straw	Offsite from local farmer	Dumped (B1)	Electricity generation on-site (biomass only boiler)	1.130 (in 2015) 4.974 (in 2016) 5.019 (in 2017) 7.145 (in 2018) 7.322 (in 2019)
2	Peanut straw	Offsite	Dumped (B1)	Electricity generation on-	0.574 (in 2015) 3.542 (in 2016) 3.121 (in 2017)

					site (biomass only boiler)	3.834 (in 2018) 4.043 (in 2019)
	3	Maize straw	From local	Dumped (B1)	Electricity generation on-site (biomass only boiler)	0.890 (in 2015) 6.300 (in 2016) 1.395 (in 2017) 2.385 (in 2018) 2.366 (in 2019)
	4	Wood residues	Offsite from local farmer	Dumped (B1)	Electricity generation on-site (biomass only boiler)	2.499 (in 2015) 16.603 (in 2016) 18.860 (in 2017) 18.620 (in 2018) 19.214 (in 2019)
Source of data used:	Biomass residues categories and quantities used in the project activity are all sourced from Monthly Report for fuel /15/ and Moisture of biomass residues report /16/ covering monitoring period.					
Information flow:	1 belt scale was used to monitor Quantity (tonnes on wet-basis), type, source of biomass continuously, aggregated monthly, and prepare annually. For each batch of biomass, the quantity (wet-basis) would be measured and recorded in Monthly Report for fuel /15/. Also, for each batch of biomass, the moisture content of the biomass residues would be monitored continuously by using moisture analyzer and recorded in the Moisture of biomass residues report /16/. Then Quantity (tonnes on dry-basis) of biomass residues were calculated based on Quantity (tonnes on wet-basis) of biomass residues and the moisture content of the biomass residues accordingly and recorded in the Monthly Report for fuel /15/. The data for Monthly Report for fuel have been sent to the CDM consulting company for reporting of GHG emission reduction. By site visit, it is confirmed that fate in the absence of the project activity of biomass would remain the same as there are no other use of biomass. Also use in the project scenario was determined as the fuel of biomass generation project.					
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 1 belt scale and moisture analyzer during the monitoring period verified by site visit. See below for the information of 1 belt scales and moisture analyzer verified by site visit and checking calibration certificates /12/:					

Equipment	Type	Serial Number	Accuracy
Belt scale	N20-2-1200	PD100118	1.0

<table>
<tr><td></td><td>
<table>
<tr><td>Moisture analyzer</td><td>SDTGA 300c</td><td>3510024c</td><td>±0.1mg</td></tr>
</table>
The type, serial number and accuracy have been confirmed by site visit.
</td></tr>
<tr><td>Calibration:</td><td>
The calibration information is shown as below /12/:
<table>
<tr><th>Equipment</th><th>Calibration date</th><th>Valid until</th></tr>
<tr><td rowspan="5">Belt scales</td><td>16/09/2015</td><td>15/09/2016</td></tr>
<tr><td>12/09/2016</td><td>11/09/2017</td></tr>
<tr><td>06/09/2017</td><td>05/09/2018</td></tr>
<tr><td>31/08/2018</td><td>30/08/2019</td></tr>
<tr><td>23/08/2019</td><td>22/08/2020</td></tr>
<tr><td rowspan="5">Moisture analyzer</td><td>16/09/2015</td><td>15/09/2016</td></tr>
<tr><td>12/09/2016</td><td>11/09/2017</td></tr>
<tr><td>06/09/2017</td><td>05/09/2018</td></tr>
<tr><td>31/08/2018</td><td>30/08/2019</td></tr>
<tr><td>23/08/2019</td><td>22/08/2020</td></tr>
</table>
The calibration was conducted by accredited third parties which is Guzhen Institute of Metrology Verification and Test.
</td></tr>
<tr><td>QA/QC procedure:</td><td>
Crosscheck has been made based on purchased quantities and stock changes as below:
<table>
<tr><th>Period</th><th>Total biomass purchase amount (tonnes)</th><th>Total biomass consumption (tonnes)</th><th>Total biomass stock amount (tonnes)</th></tr>
<tr><td>01/10/2015-31/12/2015</td><td>92,059.590</td><td>82,723.310</td><td>9,336.280</td></tr>
<tr><td>01/01/2016-31/12/2016</td><td>362,248.090</td><td>338,534.001</td><td>33,050.369</td></tr>
<tr><td>01/01/2017-31/12/2017</td><td>341,253.700</td><td>332,414.964</td><td>41,889.105</td></tr>
<tr><td>01/01/2018-31/12/2018</td><td>320,339.680</td><td>319,845.734</td><td>42,383.051</td></tr>
<tr><td>01/01/2019-31/12/2019</td><td>317,836.380</td><td>329,448.944</td><td>30,770.487</td></tr>
<tr><td>01/01/2020-29/02/2020</td><td>55,752.440</td><td>52,667.500</td><td>33,855.427</td></tr>
</table>
By checking data listed above, it is confirmed all data are in balance, Total biomass consumption = Total biomass purchase amount - Total biomass stock amount which is exactly the data monitored through direct monitoring approach.
Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
</td></tr>
</table>

Means of verification:	Data of the parameter was verified by checking Monthly Report for fuel. All data is in line with Monthly Report for fuel; Information flow was verified by checking Monthly Report for fuel, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.

Data / Parameter:	For biomass residues categories for which scenarios B1, B2 or B3 is deemed a plausible baseline alternative, project participants shall demonstrate that this is a realistic and credible alternative scenario
Data unit:	tonnes
Description:	- Quantity of available biomass residues of type n in the region - Quantity of biomass residues of type n that are utilized (e.g. for energy generation or as feedstock) in the defined geographical region - Availability of a surplus of biomass residues type n (which can not be sold or utilized) at the ultimate supplier to the project and a representative sample of other suppliers in the defined geographical region
Purpose of the data:	Calculation of leakage

Parameter value:

Unit：10^4 ton	Year 2015			
	Rice straw	Peanut straw	Maize straw	Wood residues
Available Biomass in the region	55.510	35.670	56.45	92.200
Biomass utilized out of the project	16.100	12.800	16.90	20.700
Biomass utilized by the project	1.130	0.574	0.89	2.499
Total biomass utilized, including the project	17.230	13.374	17.79	23.199
Available Biomass/Total biomass utilized	322%	267%	317%	397%
Available Biomass/Total	222%	167%	217%	297%

biomass utilized - 100%				
Abundant surplus? (More than 25%)	Yes	Yes	Yes	Yes

Unit：10^4 ton	Year 2016			
	Rice straw	Peanut straw	Maize straw	Wood residues
Available Biomass in the region	56.590	35.400	55.59	92.590
Biomass utilized out of the project	16.800	12.400	17.10	20.200
Biomass utilized by the project	4.974	3.542	6.30	16.603
Total biomass utilized, including the project	21.774	15.942	23.40	36.803
Available Biomass/Total biomass utilized	260%	222%	238%	252%
Available Biomass/Total biomass utilized - 100%	160%	122%	138%	152%
Abundant surplus? (More than 25%)	Yes	Yes	Yes	Yes

Unit：10^4 ton	Year 2017			
	Rice straw	Peanut straw	Maize straw	Wood residues
Available Biomass in the region	55.410	36.120	56.78	92.400
Biomass utilized out of the project	16.700	12.700	16.40	21.500
Biomass utilized by the project	5.019	3.121	1.395	18.860
Total biomass utilized, including the project	21.719	15.821	17.79	40.360
Available Biomass/Total biomass utilized	255%	228%	319%	229%

Available Biomass/Total biomass utilized - 100%	155%	128%	219%	129%
Abundant surplus? (More than 25%)	Yes	Yes	Yes	Yes

Unit：10^4 ton	Year 2018			
	Rice straw	Peanut straw	Maize straw	Wood residues
Available Biomass in the region	57.220	35.430	56.46	93.430
Biomass utilized out of the project	16.900	13.000	16.50	20.600
Biomass utilized by the project	7.145	3.834	2.385	18.620
Total biomass utilized, including the project	24.045	16.834	18.89	39.220
Available Biomass/Total biomass utilized	264%	226%	316%	238%
Available Biomass/Total biomass utilized - 100%	164%	126%	216%	138%
Abundant surplus? (More than 25%)	Yes	Yes	Yes	Yes

Unit：10^4 ton	Year 2019			
	Rice straw	Peanut straw	Maize straw	Wood residues
Available Biomass in the region	57.010	36.040	56.07	93.170
Biomass utilized out of the project	16.800	13.100	16.90	21.000
Biomass utilized by the project	7.322	4.043	2.366	19.214
Total biomass utilized, including the project	24.122	17.143	19.27	40.214

	Available Biomass/Total biomass utilized	262%	227%	308%	232%
	Available Biomass/Total biomass utilized - 100%	162%	127%	208%	132%
	Abundant surplus? (More than 25%)	Yes	Yes	Yes	Yes

Source of data used:	For biomass residues categories for which scenarios B1, B2 or B3 is deemed a plausible baseline alternative, project participants shall demonstrate that this is a realistic and credible alternative scenario are all sourced from Biomass Survey Report /20/ covering monitoring period.
Information flow:	Agricultural Bureau of Guzhen County would issue a Biomass Survey Report annually in which Quantity of biomass residues are utilized and Total Quantity of biomass residues available in the area of 50 km would be issued.
Monitoring method, frequency and equipments:	Agricultural Bureau of Guzhen County would issue a Biomass Survey Report annually in which Quantity of biomass residues are utilized and Total Quantity of biomass residues available in the area of 50 km would be issued.
Calibration:	Not applicable
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
Means of verification:	Data of the parameter was verified by checking Biomass Survey Report. All data is in line with Monthly Report for fuel; Information flow was verified by checking Biomass Survey Report, and all information are consistent.

Data / Parameter:	Moisture content of the biomass residues
Data unit:	% Water content
Description:	Moisture content of each biomass residues type k
Purpose of the data:	Calculation of project emissions

Parameter value:

Type	2015	2016	2017	2018	2019
Rice straw	32.74%	32.84%	33.28%	33.54%	32.17%

<table>
<tr><td></td><td>
<table>
<tr><td>Peanut straw</td><td>28.20%</td><td>29.98%</td><td>29.46%</td><td>29.84%</td><td>30.76%</td></tr>
<tr><td>Maize straw</td><td>42.29%</td><td>44.12%</td><td>42.73%</td><td>43.21%</td><td>44.22%</td></tr>
<tr><td>Wood residues</td><td>41.16%</td><td>41.63%</td><td>42.75%</td><td>41.91%</td><td>42.34%</td></tr>
</table>
</td></tr>
<tr><td>Source of data used:</td><td>Moisture content of the biomass residues are sourced from Moisture of biomass residues report /16/.</td></tr>
<tr><td>Information flow:</td><td>For each batch of biomass, the moisture content of the biomass residues would be monitored continuously by using moisture analyzer and recorded in the Moisture of biomass residues report /16/.
The data for Moisture of biomass residues report /16/ have been sent to the CDM consulting company for reporting of GHG emission reduction.</td></tr>
<tr><td>Monitoring method, frequency and equipments:</td><td>The parameter was measured continuously and recorded monthly by moisture analyzer during the monitoring period verified by site visit.
See below for the information of moisture analyzer verified by site visit and checking calibration certificates /12/:
<table>
<tr><th>Equipment</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr>
<tr><td>Moisture analyzer</td><td>SDTGA 300c</td><td>3510024c</td><td>±0.1mg</td></tr>
</table>
The type, serial number and accuracy have been confirmed by site visit.</td></tr>
<tr><td>Calibration:</td><td>The calibration information is shown as below /12/:
<table>
<tr><th>Equipment</th><th>Calibration date</th><th>Valid until</th></tr>
<tr><td rowspan="5">Moisture analyzer</td><td>16/09/2015</td><td>15/09/2016</td></tr>
<tr><td>12/09/2016</td><td>11/09/2017</td></tr>
<tr><td>06/09/2017</td><td>05/09/2018</td></tr>
<tr><td>31/08/2018</td><td>30/08/2019</td></tr>
<tr><td>23/08/2019</td><td>22/08/2020</td></tr>
</table>
The calibration was conducted by accredited third parties which is Guzhen Institute of Metrology Verification and Test.</td></tr>
<tr><td>QA/QC procedure:</td><td>Data record will be archived for a period of 2 years after the crediting period to which the records pertain.</td></tr>
<tr><td>Means of verification:</td><td>Data of the parameter was verified by checking Moisture of biomass residues report. All data is in line with Moisture of biomass residues report;</td></tr>
</table>

	Information flow was verified by checking Moisture of biomass residues report, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.

Data / Parameter:	$NCV_{n,y}$
Data unit:	GJ/ton of dry-basis
Description:	Net calorific value of biomass residues of category n in year y
Purpose of the data:	Calculation of project emissions
Parameter value:	<table><tr><th>Biomass Type</th><th>High value of NCV (MJ/kg)</th><th>Low value of NCV(MJ/kg)</th><th>Comment</th></tr><tr><td>Rice straw</td><td>15.24</td><td>13.97</td><td rowspan="3">High value is used</td></tr><tr><td>Peanut straw</td><td>18.60</td><td>17.23</td></tr><tr><td>Maize straw</td><td>16.90</td><td>15.54</td></tr><tr><td>Wood residues</td><td>16.90</td><td>/</td><td></td></tr></table>
Source of data used:	Net Calorific Value of biomass type k (NCV_k) are sourced from Fuel supply handbook for biomass-fired power project /21/.
Information flow:	Not applicable
Monitoring method, frequency and equipments:	Not applicable
Calibration:	Not applicable
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
Means of verification:	Not applicable

Data / Parameter:	$D_{f,m}$
Data unit:	Kilometre
Description:	Return trip road distance between the origin and destination of freight transportation activity f in monitoring period m
Purpose of the data:	Calculation of project emissions
Parameter value:	50*2 = 100
Source of data used:	As according to the law and regulation, the radius collection of every biomass project should be no more than 50 km. Therefore, it is most conservative to apply 100 km as the value.
Information flow:	Not applicable
Monitoring method, frequency and equipments:	Not applicable
Calibration:	Not applicable
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
Means of verification:	Not applicable

Data / Parameter:	$FR_{f,m}$
Data unit:	tonnes
Description:	Total mass of freight transported in freight transportation activity f in monitoring period m
Purpose of the data:	Calculation of project emissions
Parameter value:	1,489,489.880
Source of data used:	Total mass of freight transported in freight transportation activity f in monitoring period m are sourced from Monthly Report for fuel /15/.
Information flow:	2 weight bridges were used to monitor total mass of freight transported in freight transportation activity f in monitoring period m (tonnes on wet-basis) continuously, aggregated monthly, and prepare annually. For each batch of biomass, the quantity (wet-basis) which is the load of truck would be measured and recorded in Monthly Report for fuel /15/.

<table>
<tr><td></td><td>The data for Monthly Report for fuel have been sent to the CDM consulting company for reporting of GHG emission reduction.</td></tr>
<tr><td>Monitoring method, frequency and equipments:</td><td>The parameter was measured continuously and recorded monthly by 2 weight bridges during the monitoring period verified by site visit.
See below for the information of 2 weight bridges verified by site visit and checking calibration certificates /12/:
<table>
<tr><th>Equipment</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr>
<tr><td>Weight Bridge</td><td>SCS-60</td><td>20091203</td><td>III</td></tr>
<tr><td>Weight Bridge</td><td>SCS-80</td><td>20101107</td><td>III</td></tr>
</table>
The type, serial number and accuracy have been confirmed by site visit.</td></tr>
<tr><td>Calibration:</td><td>The calibration information is shown as below /12/:
<table>
<tr><th>Equipment</th><th>Calibration date</th><th>Valid until</th></tr>
<tr><td rowspan="10">Weight Bridges (2 bridges)</td><td>11/09/2015</td><td>10/03/2016</td></tr>
<tr><td>08/03/2016</td><td>07/09/2016</td></tr>
<tr><td>02/09/2016</td><td>02/03/2017</td></tr>
<tr><td>24/02/2017</td><td>23/08/2017</td></tr>
<tr><td>20/08/2017</td><td>19/02/2018</td></tr>
<tr><td>14/02/2018</td><td>13/08/2018</td></tr>
<tr><td>10/08/2018</td><td>09/02/2019</td></tr>
<tr><td>01/02/2019</td><td>31/07/2019</td></tr>
<tr><td>26/07/2019</td><td>25/01/2020</td></tr>
<tr><td>15/01/2020</td><td>14/07/2020</td></tr>
</table>
The calibration was conducted by accredited third parties which is Guzhen Institute of Metrology Verification and Test.</td></tr>
<tr><td>QA/QC procedure:</td><td>Crosscheck has been made based on purchased quantities and stock changes as below:
<table>
<tr><th>Period</th><th>Total biomass purchase amount (tonnes)</th><th>Total biomass consumption (tonnes)</th><th>Total biomass stock amount (tonnes)</th></tr>
<tr><td>01/10/2015-31/12/2015</td><td>92,059.590</td><td>82,723.310</td><td>9,336.280</td></tr>
<tr><td>01/01/2016-31/12/2016</td><td>362,248.090</td><td>338,534.001</td><td>33,050.369</td></tr>
<tr><td>01/01/2017-31/12/2017</td><td>341,253.700</td><td>332,414.964</td><td>41,889.105</td></tr>
<tr><td>01/01/2018-31/12/2018</td><td>320,339.680</td><td>319,845.734</td><td>42,383.051</td></tr>
<tr><td>01/01/2019-31/12/2019</td><td>317,836.380</td><td>329,448.944</td><td>30,770.487</td></tr>
<tr><td>01/01/2020-29/02/2020</td><td>55,752.440</td><td>52,667.500</td><td>33,855.427</td></tr>
</table></td></tr>
</table>

	By checking data listed above, it is confirmed all data are in balance, Total biomass purchase amount = Total biomass consumption + Total biomass stock amount which is exactly the data monitored through direct monitoring approach. Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
Means of verification:	Data of the parameter was verified by checking Monthly Report for fuel. All data is in line with Monthly Report for fuel; Information flow was verified by checking Monthly Report for fuel, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.

Data / Parameter:	$FC_{diesel,project,y}$
Data unit:	Mass unit per year
Description:	Quantity of diesel combusted that are attributable to the project activity during the year y
Purpose of the data:	Calculation of project emissions
Parameter value:	781.433
Source of data used:	Quantity of diesel combusted that are attributable to the project activity during the year y are sourced from Diesel consumption record /18/.
Information flow:	A flow meter would be used to monitor the consumption volume of diesel continuously and recorded on a monthly basis in the Diesel consumption record /18/. As the unit of data monitored by the flow meter is volume, a conservative 0.88 t/m^3 density would be used for data transition. The data for Diesel consumption record have been sent to the CDM consulting company for reporting of GHG emission reduction.
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 1 flow meter during the monitoring period verified by site visit. See below for the information of 1 flow meter verified by site visit and checking calibration certificates /12/:

<table>
<tr><td></td><td>
<table>
<tr><th>Equipment</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr>
<tr><td>Flow meter</td><td>SKDS-2001A</td><td>101522488</td><td>±0.3%</td></tr>
</table>
The type, serial number and accuracy have been confirmed by site visit.
</td></tr>
<tr><td>Calibration:</td><td>
The calibration information is shown as below /12/:
<table>
<tr><th>Equipment</th><th>Calibration date</th><th>Valid until</th></tr>
<tr><td rowspan="5">Flow meter</td><td>16/09/2015</td><td>15/09/2016</td></tr>
<tr><td>12/09/2016</td><td>11/09/2017</td></tr>
<tr><td>06/09/2017</td><td>05/09/2018</td></tr>
<tr><td>31/08/2018</td><td>30/08/2019</td></tr>
<tr><td>23/08/2019</td><td>22/08/2020</td></tr>
</table>
The calibration was conducted by accredited third parties which is Guzhen Institute of Metrology Verification and Test.
</td></tr>
<tr><td>QA/QC procedure:</td><td>
By checking diesel purchased and stock volume of diesel monthly, a crosscheck has been made and conservative value would be used for project emission calculation.
<table>
<tr><th>Period</th><th>Diesel purchase amount（tonnes）</th><th>Diesel consumption（tonnes）</th><th>Diesel stock amount（tonnes）</th></tr>
<tr><td>01/10/2015-31/12/2015</td><td>71.764</td><td>54.600</td><td>17.164</td></tr>
<tr><td>01/01/2016-31/12/2016</td><td>179.688</td><td>174.380</td><td>22.472</td></tr>
<tr><td>01/01/2017-31/12/2017</td><td>196.554</td><td>184.965</td><td>34.061</td></tr>
<tr><td>01/01/2018-31/12/2018</td><td>166.382</td><td>177.702</td><td>22.741</td></tr>
<tr><td>01/01/2019-31/12/2019</td><td>170.921</td><td>163.261</td><td>30.401</td></tr>
<tr><td>01/01/2020-29/02/2020</td><td>44.645</td><td>26.525</td><td>48.521</td></tr>
</table>
By checking data listed above, it is confirmed all data are in balance, Diesel consumption = Diesel purchase amount - Diesel stock amount which is exactly the data monitored through direct monitoring approach.
Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
</td></tr>
<tr><td>Means of verification:</td><td>
Data of the parameter was verified by checking Diesel consumption record. All data is in line with Monthly Report for fuel;
Information flow was verified by checking Diesel consumption record, and all information are consistent;
</td></tr>
</table>

	Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.

Data / Parameter:	$NCV_{diesel,y}$
Data unit:	GJ/tonne
Description:	Net calorific value of diesel
Purpose of the data:	Calculation of project emissions
Parameter value:	43.3
Source of data used:	2006 IPCC Guidelines on National GHG Inventories default value /17/
Information flow:	Not applicable
Monitoring method, frequency and equipments:	Not applicable
Calibration:	Not applicable
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
Means of verification:	Not applicable

Data / Parameter:	$EF_{CO2,diesel,i}$
Data unit:	tCO_2e /GJ
Description:	CO_2 emission factor for diesel
Purpose of the data:	Calculation of project emissions
Parameter value:	0.0748
Source of data used:	2006 IPCC Guidelines on National GHG Inventories default value /17/
Information flow:	Not applicable
Monitoring method, frequency and equipments:	Not applicable

Calibration:	Not applicable
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.
Means of verification:	Not applicable

Parameters available at validation stage:

Below data has been verified against the data sources and the PD.

Parameter title	Description	Data	Source
$EF_{grid,CM,y}$	The combined baseline emission factor	0.74945	2011 Baseline Emission Factors for Regional Power Grid in China issued by China's DNA dated 20/10/2011 /14/.
Biomass residues categories and quantities used for the selection of the baseline scenario selection and assessment of additionality		Refer to PD	FSR
$EF_{CO2,f}$		245	Project and leakage emissions from road transportation of freight version 01.0.0

For the rest of parameter fixed in the registered PD are all used to calculate the $EF_{grid,CM,y}$ which is fixed in this monitoring period.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The monitoring has been carried out in accordance with the monitoring plan contained in the registered PD /3/ version 2.1 dated 17/07/2013.

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the MR Report and ER Calculation Spreadsheet /2/ and are consistent with the applied methodology ACM0018 version 2.0.0 and the monitoring plan contained in the registered PD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the ER Calculation Spreadsheet and the MR Report. The verification process for the same has been clearly described above in section 4.4 of the report.

4.6 Non-Permanence Risk Analysis

Not applicable as a renewable project.

5 VERIFICATION CONCLUSION

Applus+ Certification has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity "Anhui Guzhen Biomass Generation Project" (VCS Ref. No. 1121).

The management of National Guzhen Bio Energy Co., Ltd is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered PD /3/, version 2.1 dated 17/07/2013.

Our verification approach was based on the requirements as defined under the applicable VCS standards and relevant UNFCCC requirements. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is implemented and operated as per the registered PD;

- the monitoring plan in registered PD is as per the applied methodology;

- the monitoring complies with the monitoring plan in the registered PD;

- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS and CDM requirements;

- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;

- the monitoring system is in place and generates GHG emission reductions data;

- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for "Anhui Guzhen Biomass Generation Project" during the monitoring period 01/10/2015 to 29/02/2020 as reported in Monitoring Report, prepared on the basis of the project's Monitoring Plan are fairly stated. Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 01/10/2015 to 29/02/2020 (divided into 6 vintage periods). Verified GHG emission reductions or removals in the above reporting period:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2015	37,381	2,434	0	34,947

2016	152,546	9,447	0	143,099
2017	151,654	8,966	0	142,688
2018	145,263	8,430	0	136,833
2019	147,967	8,323	0	139,644
2020	24,132	1,453	0	22,679
Total	658,943	39,053	0	619,890

APPENDIX 1: REFERENCE LIST

1. Monitoring report, version 1.0, dated 19/03/2020; version 2.0, dated 28/03/2020

2. ER calculation spreadsheet

3. VCS PD, version 2.1, dated 17/07/2013;

   CDM PDD, version 2.0, dated 21/09/2012

4. Validation report, No. C-1-C-01-L-0236, version 01, completed by Perry Johnson Registrars Carbon Emissions Services

   Verification report, No. 182, version 02.2, completed by re-consult Ltd

5. VCS standard version 4.0, dated on 19/09/2019

6. Statement issued by project owner

7 Approved methodology ACM0018, version 2.0.0, dated 02/03/2012

8 CDM Monitoring procedure

9 Nameplate of the equipment

10 Meter Reading Record (MRRs) for Meters

11 Electricity Transaction Notes covering the monitoring period

12 Calibration certificates of meters covering the whole monitoring period issued by Anhui Electric Science Research Institute Co., Ltd;

   Calibration certificates of weight bridges, belt scale, flow meter and moisture analyzer covering the whole monitoring period issued by Guzhen Institute of Metrology Verification and Test

13 Accreditation certificates for Anhui Electric Science Research Institute Co., Ltd issued by Quality and Technology Supervision Bureau of Anhui province

14 2011 Baseline Emission Factors for Regional Power Grid in China issued by China's DNA dated 20/10/2011

15 Monthly Report for fuel

16 Moisture of biomass residues report

17 2006 IPCC Guidelines on National GHG Inventories

18 Diesel consumption record

19 Project and leakage emissions from road transportation of freight version 01.0.0

20 Biomass Survey Report

21 Fuel supply handbook for biomass-fired power project initiated by World bank